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Attorney Docket No. 70683

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant(s): | Fries, et al. |
| Serial No.: | 09/976,597 |
| Filed: | October 12, 2001 |
| For: | **SYSTEM FOR THE DECONTAMINATION OF FLUID PRODUCTS USING LIGHT** |
| Group Art Unit: | TBD |
| Examiner: | TBD |

I hereby certify that this paper is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to:
Box PGPUB Drawings
Assistant Commissioner for Patents
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on this date.

01/31/02
Date

Scott J. Menghini
Registration No. 42,880
Attorney for Applicant(s)

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## PETITION UNDER 37 C.F.R. § 1.182 REQUESTING ENTRY OF DRAWINGS IN A PATENT APPLICATION PUBLICATION

BOX PGPUB DRAWINGS
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Applicant hereby petitions and requests that the enclosed formal drawings be entered and included in the patent application publication for the above-identified patent application.

The Commissioner is hereby authorized to charge the Petition Fee of $130.00 as set forth in 37 C.F.R. § 1.17(h) as provided in the attached Fee Transmittal Form.

Respectfully submitted,

Scott J. Menghini
Reg. No. 42,880
January 31, 2002

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FITCH, EVEN, TABIN & FLANNERY
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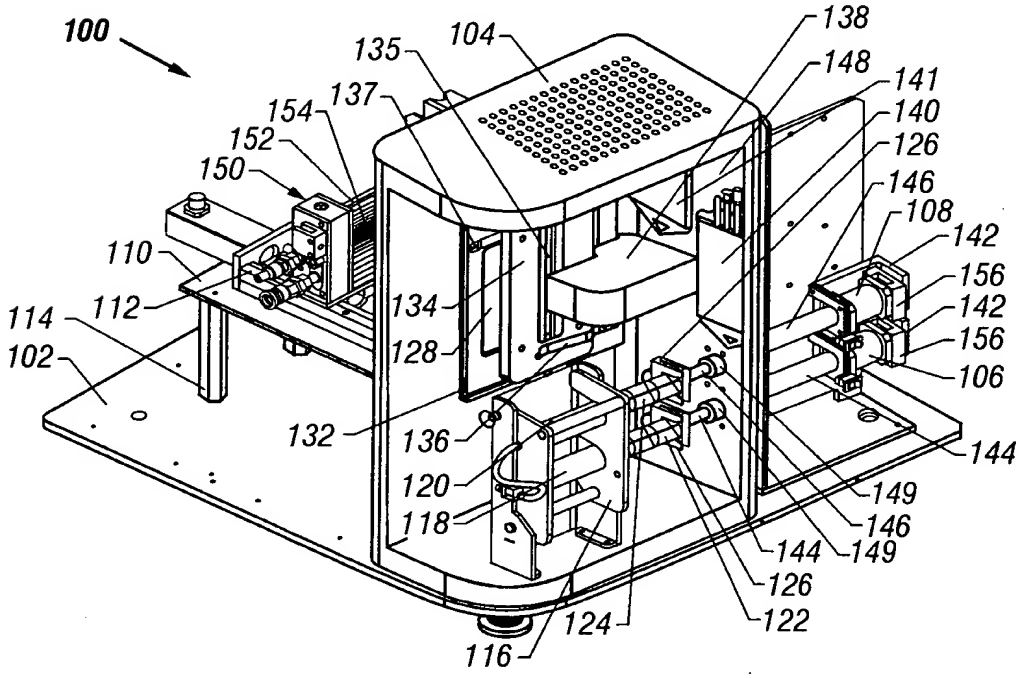
120 S. La Salle Street
Chicago, IL 60603
(858) 552-1311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135
104
138
148
141
154
137
140
152
126
150
146
108
142
110
156
112
134
142
114
128
156
102
106
132
136
144
120
149
118
146
144
149
126
122
124
116

FIG. 1

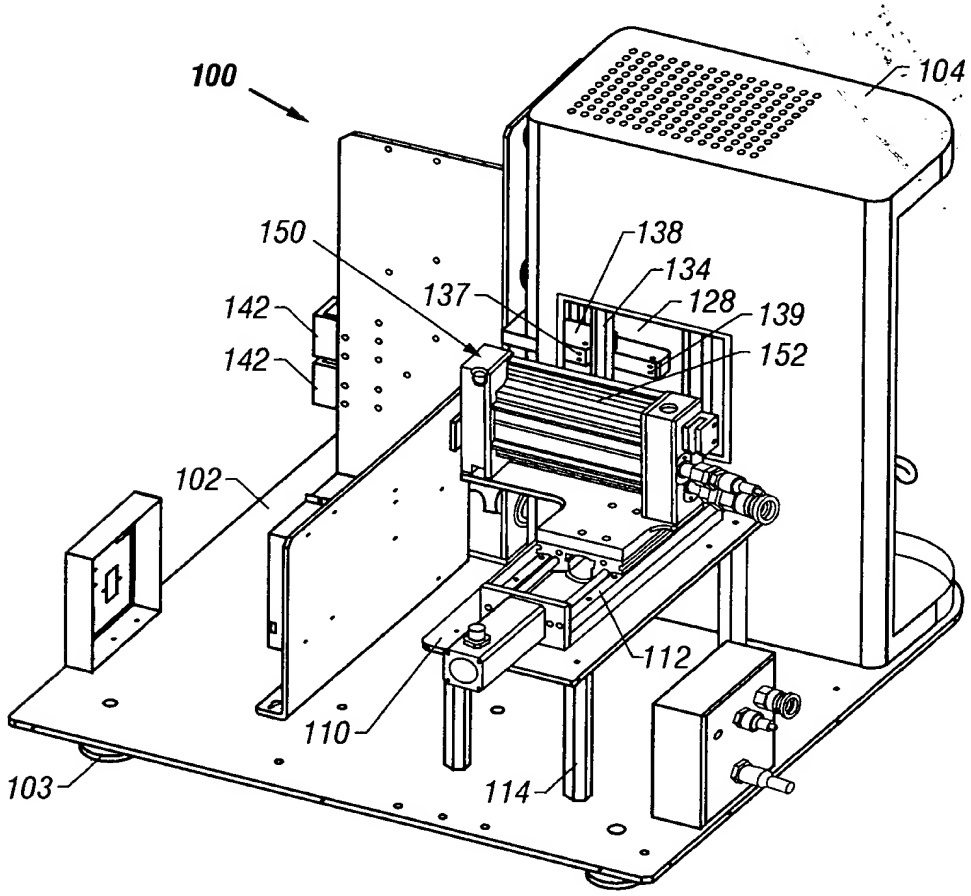


FIG. 2

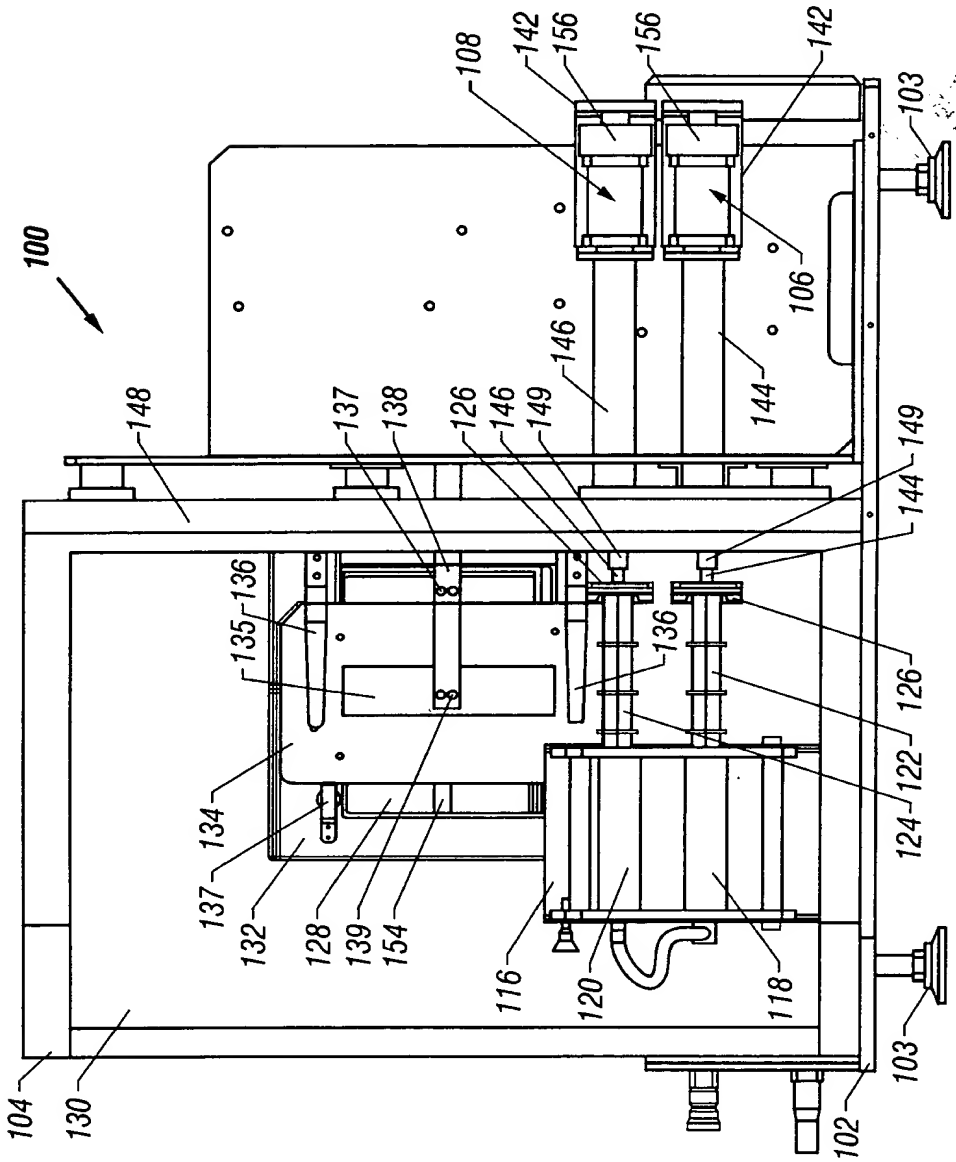
100
108
142
156
156
142
103
106
146
144
148
137
138
126
146
149
149
144
136
135
136
126
122
124
134
137
132
128
139
154
116
120
118
103
104
130
102

FIG. 3

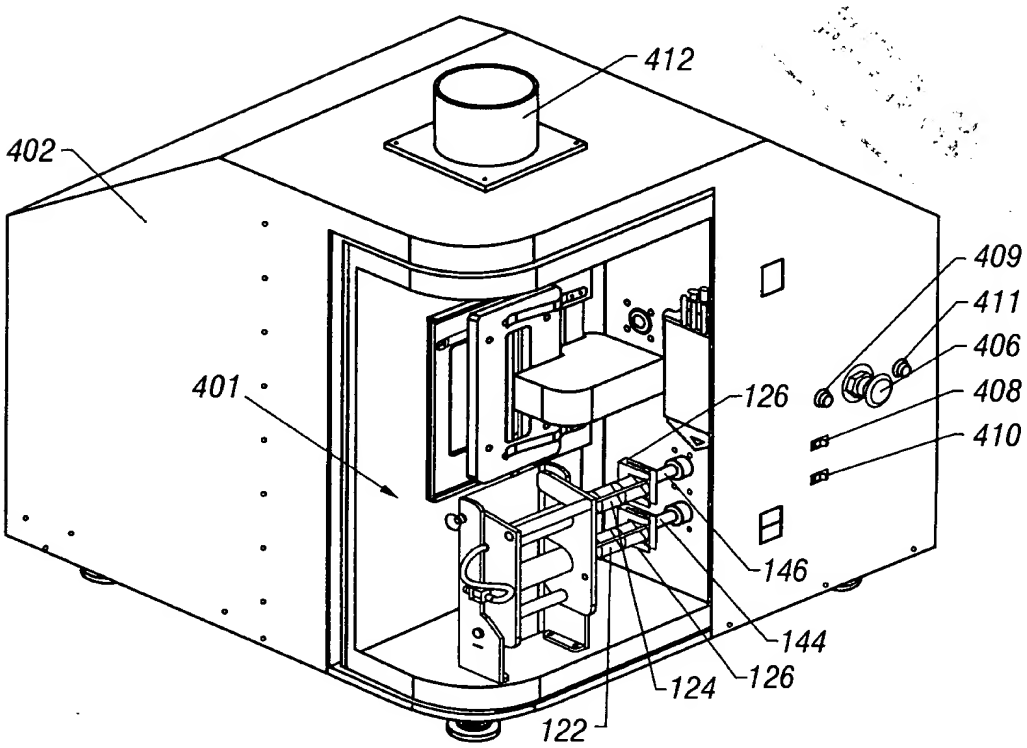


FIG. 4

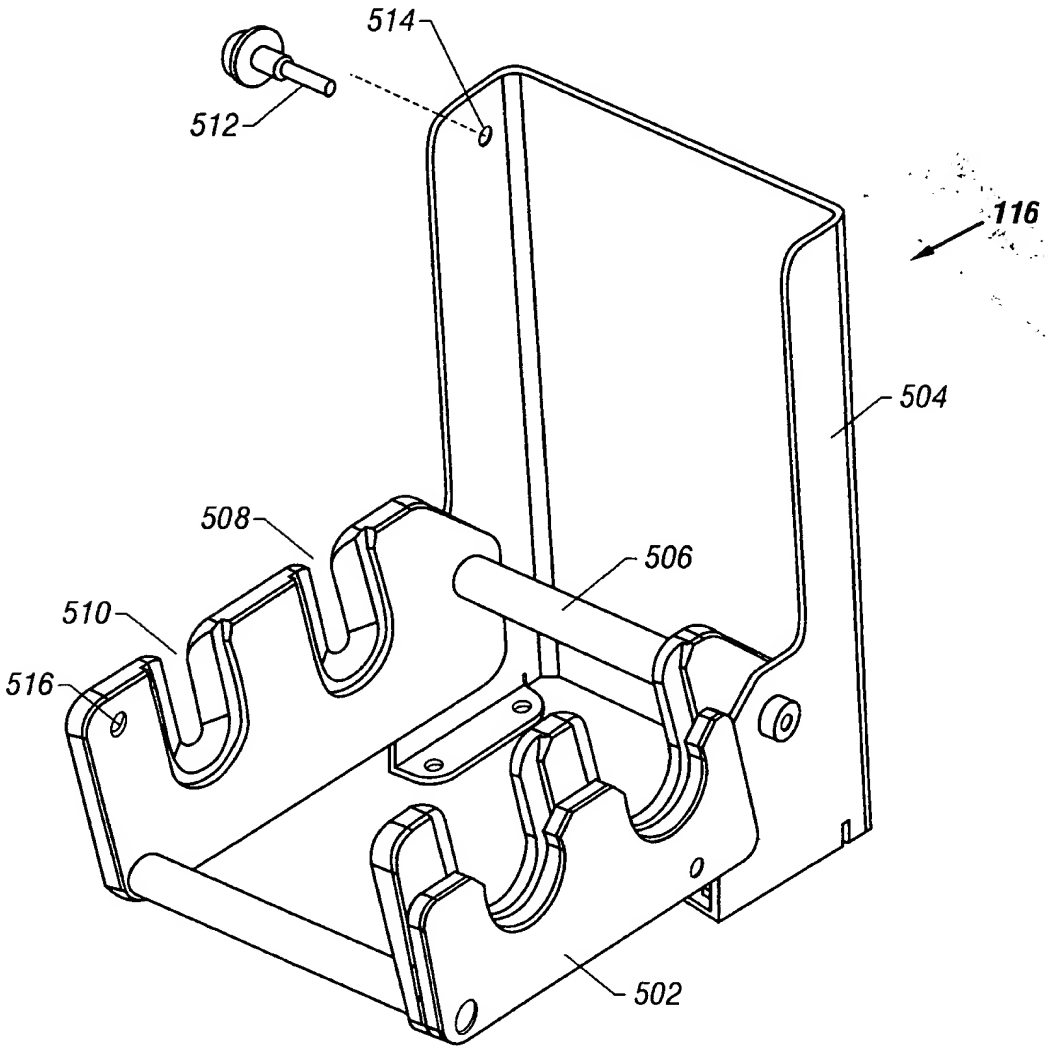


FIG. 5

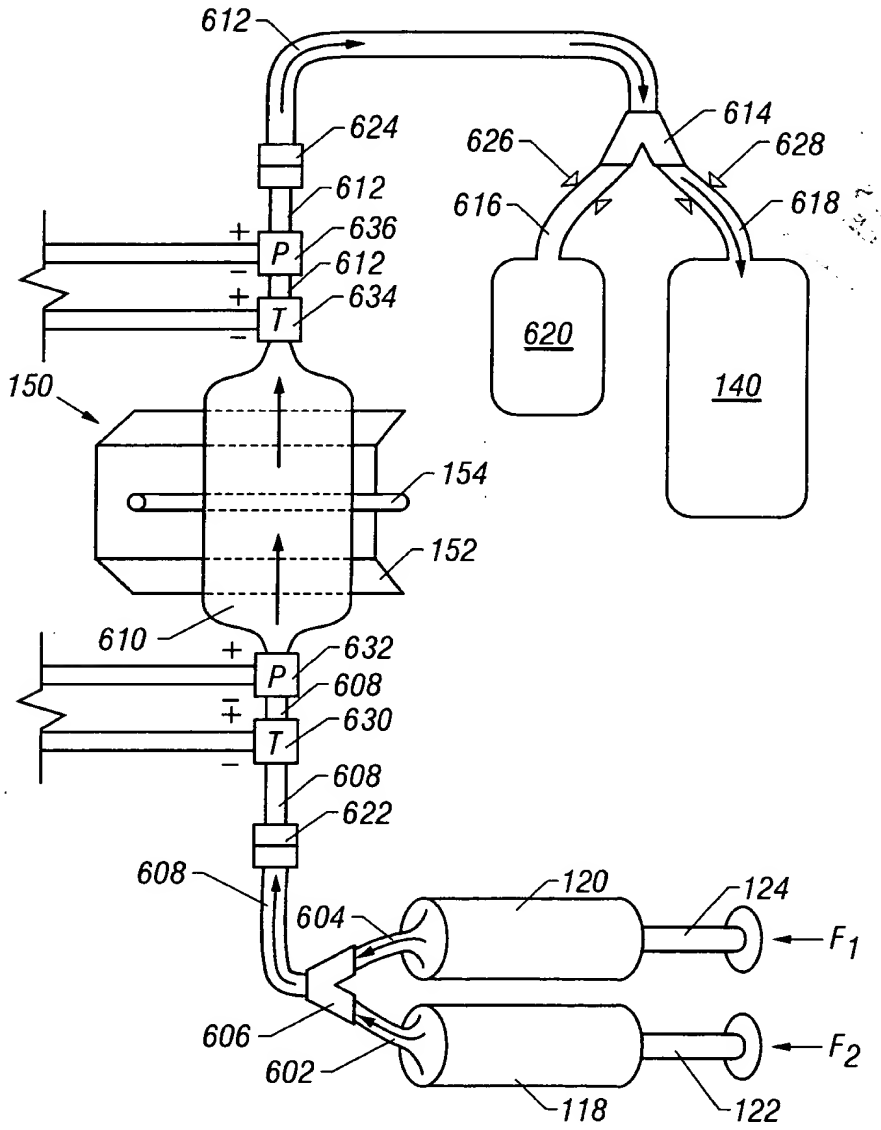
612
624
612
636
612
634
626
614
628
616
618
620
140
150
154
152
610
632
608
630
608
622
608
120
124
604
$F_1$
606
602
$F_2$
118
122

FIG. 6

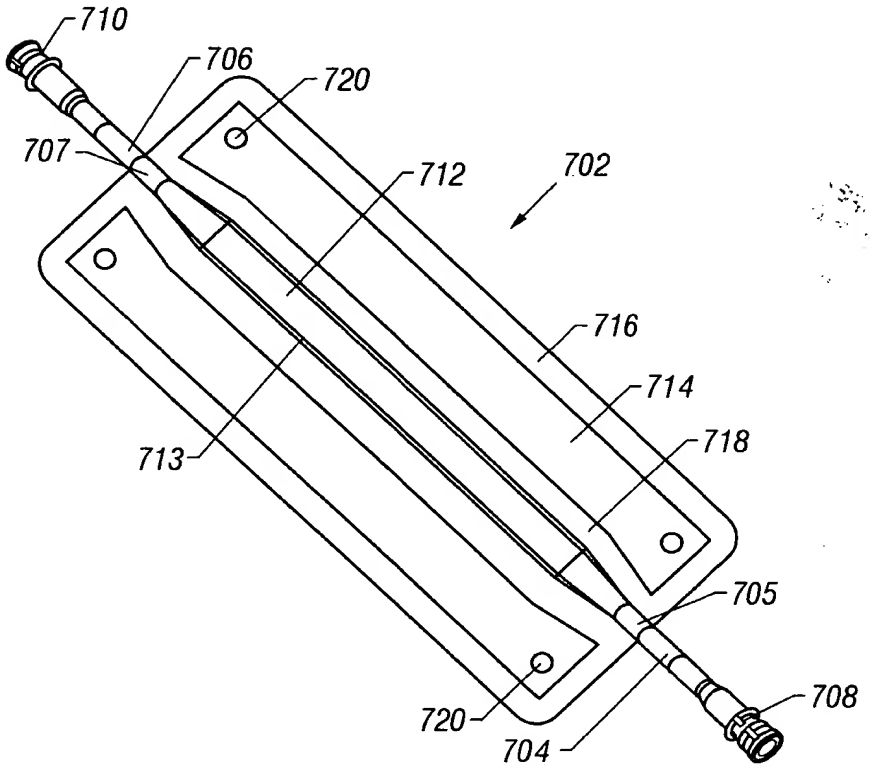
710
706
720
707
712
702
716
714
718
713
705
708
720
704

FIG. 7A

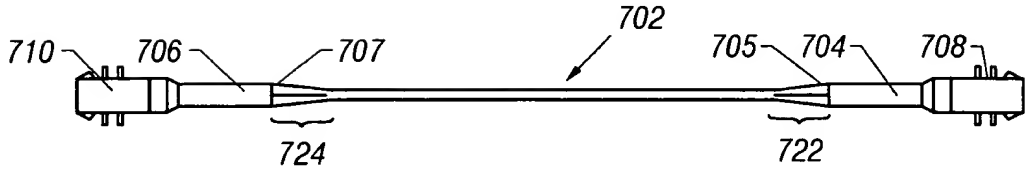
710
706
707
702
705
704
708
724
722

FIG. 7B

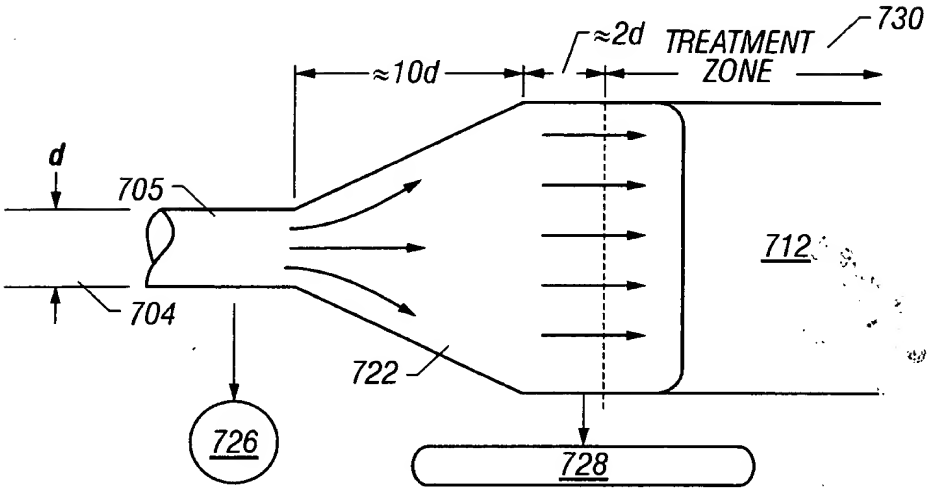
≈10d
≈2d
TREATMENT ZONE
730
d
705
704
712
722
726
728

FIG. 7C

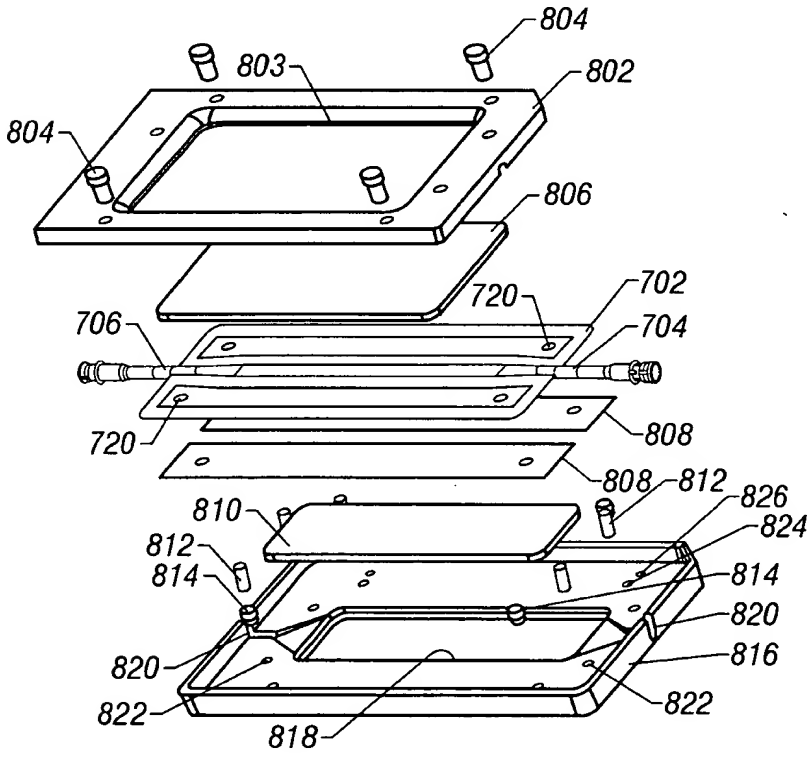
804
803
802
804
806
720
702
706
704
720
808
808
812
826
810
824
812
814
814
820
820
816
822
822
818

FIG. 8

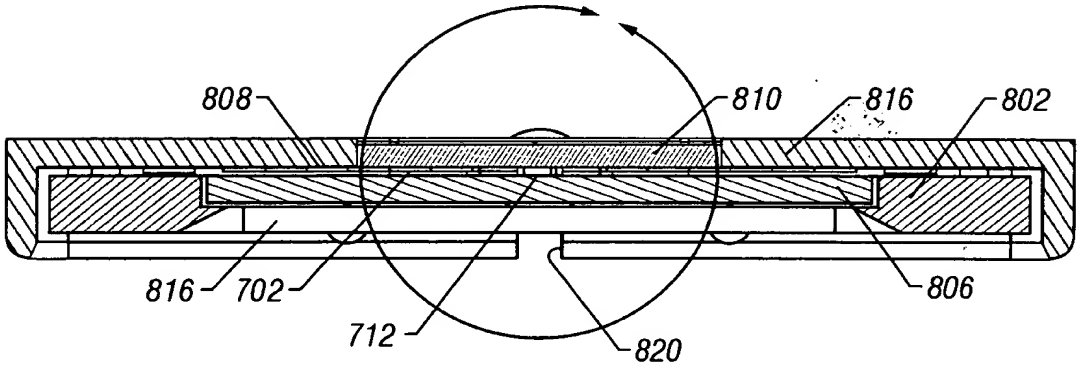
808
810
816
802
816
702
712
820
806

FIG. 9A

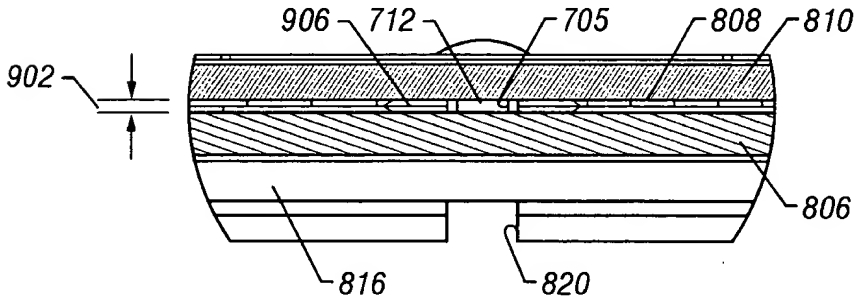
906
712
705
808
810
902
806
816
820

FIG. 9B

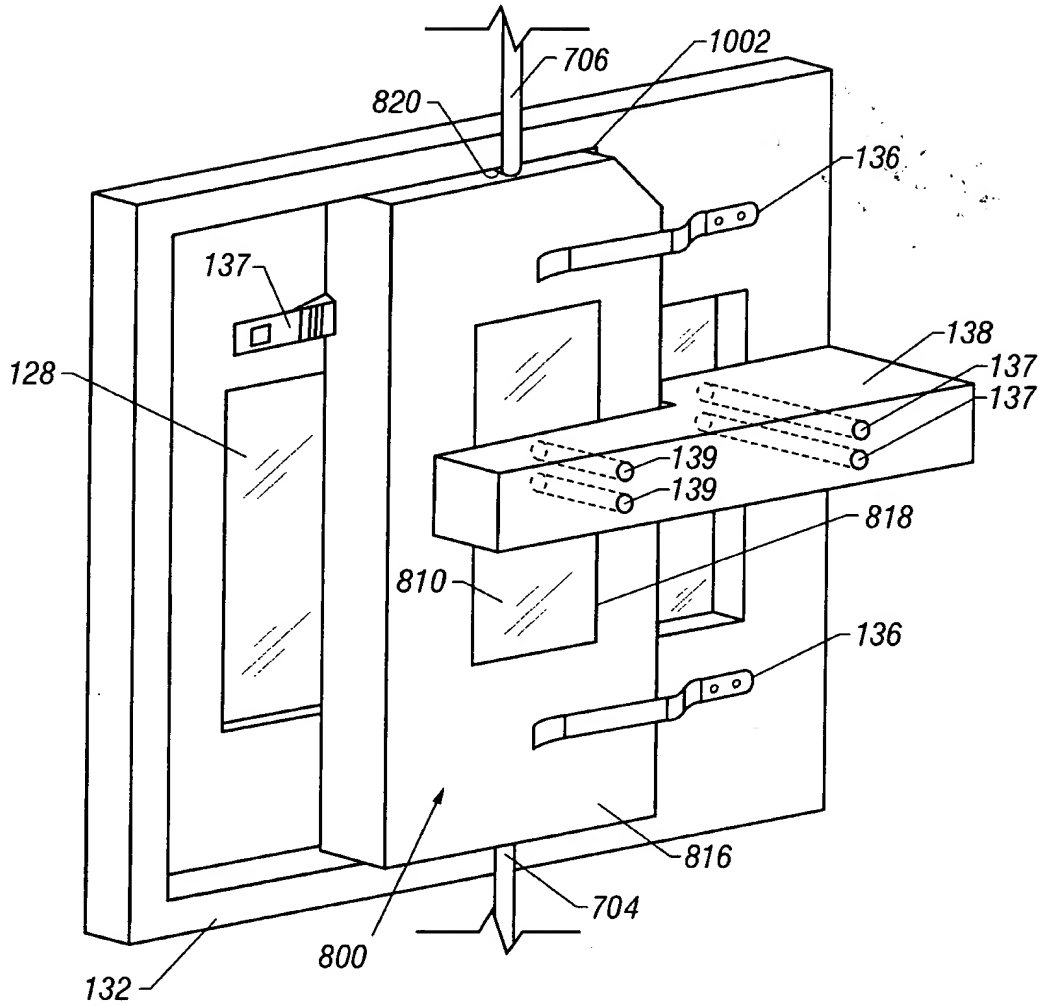
706
1002
820
136
137
138
137
137
128
139
139
818
810
136
816
704
800
132

FIG. 10

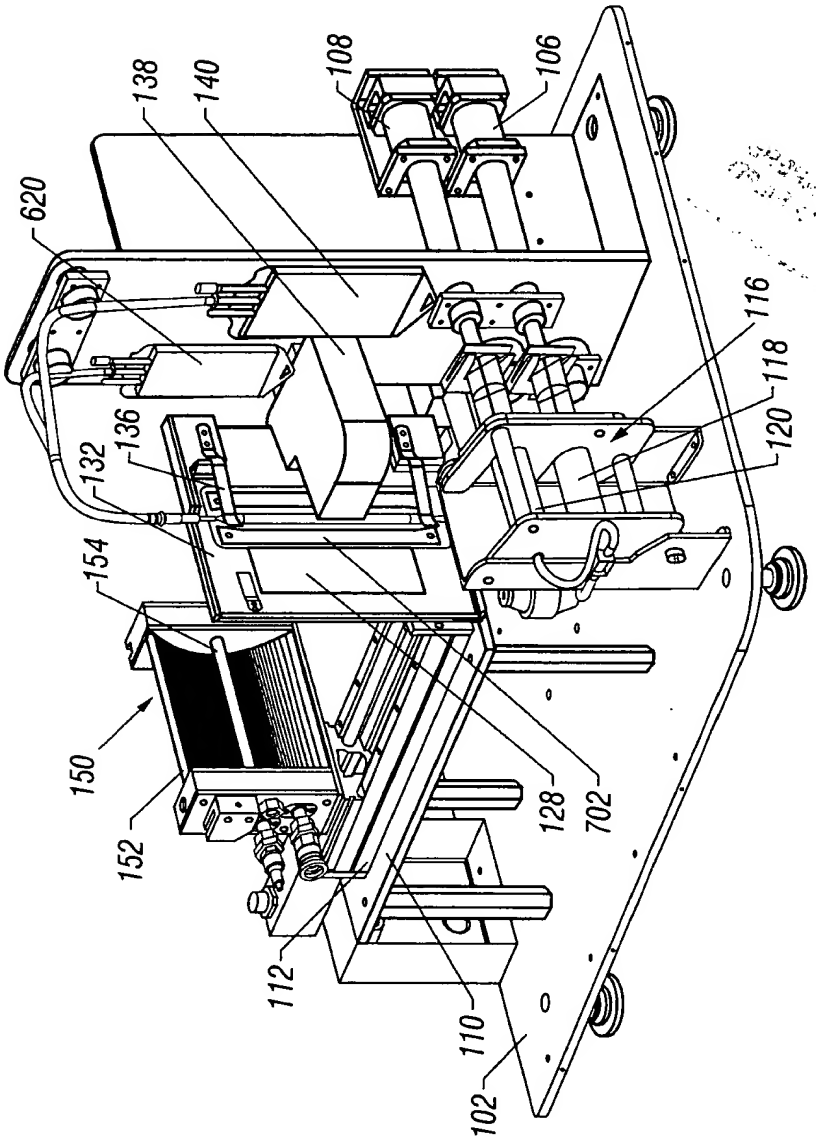
620
138
140
108
106
116
118
120
136
132
154
150
152
128
702
112
110
102

FIG. 11

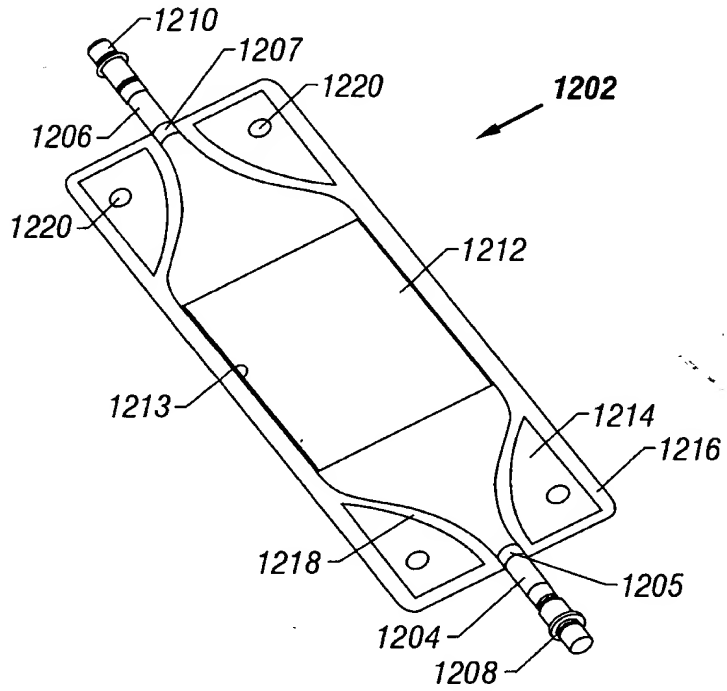


FIG. 12

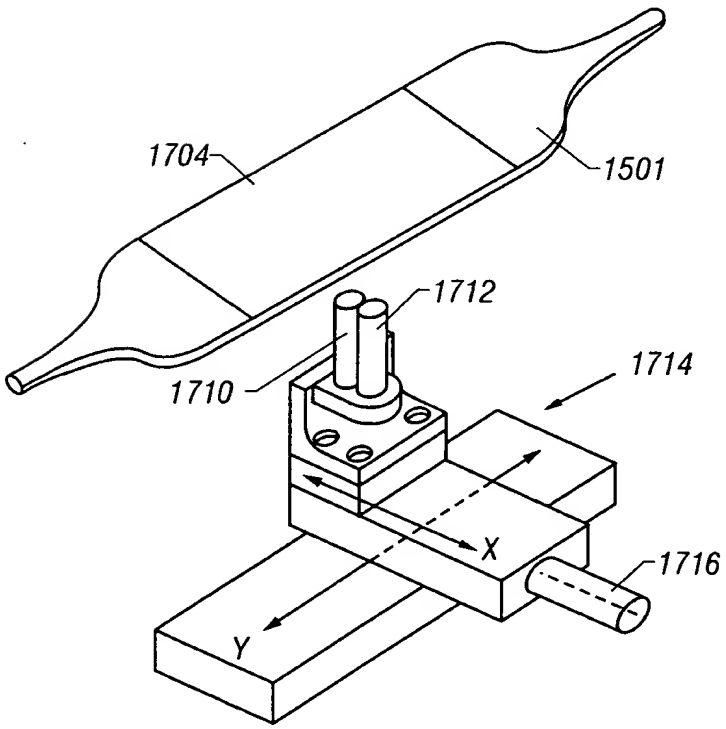


FIG. 17B

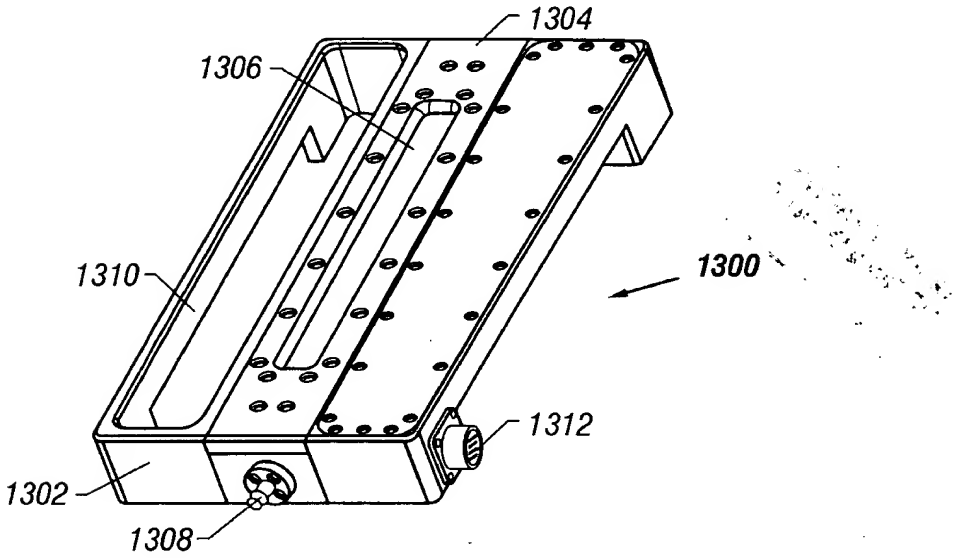
1304
1306
1310
1300
1312
1302
1308

FIG. 13

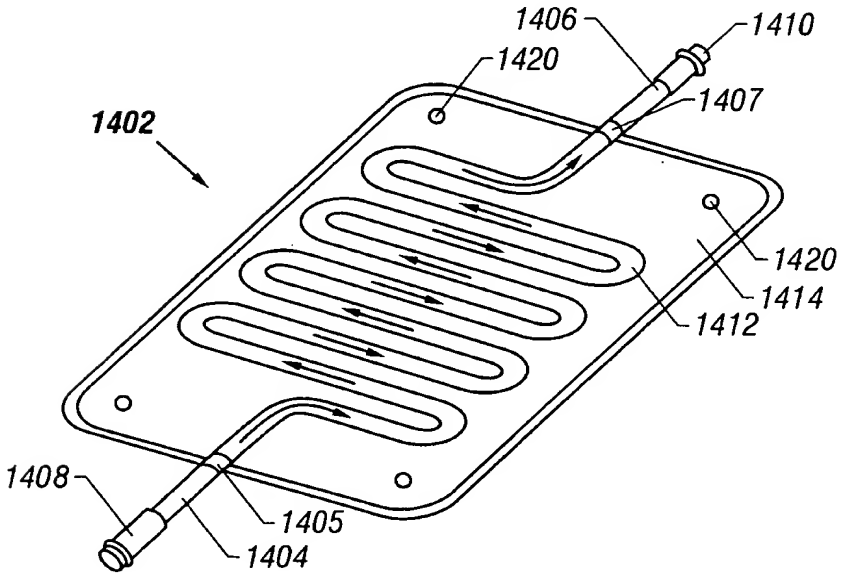
1406
1410
1420
1407
1402
1420
1414
1412
1408
1405
1404

FIG. 14

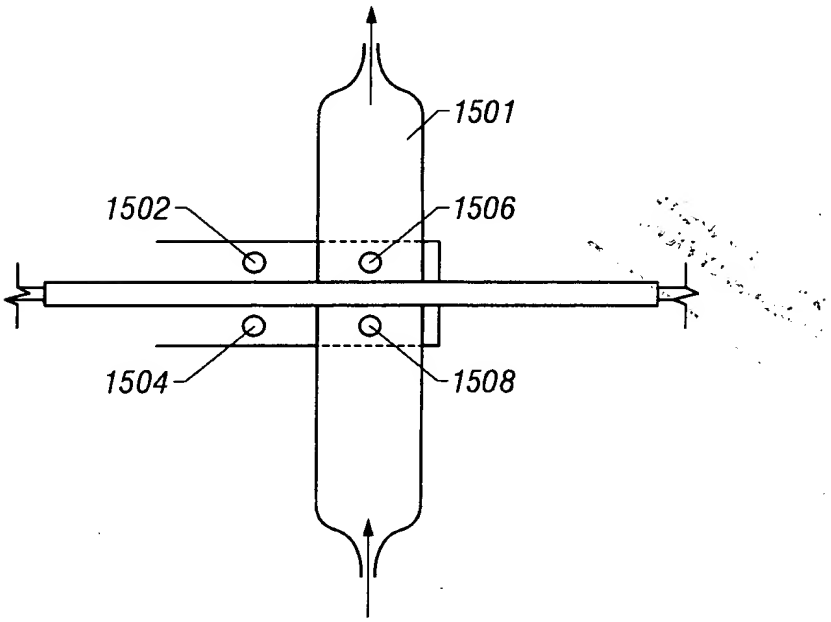


FIG. 15A

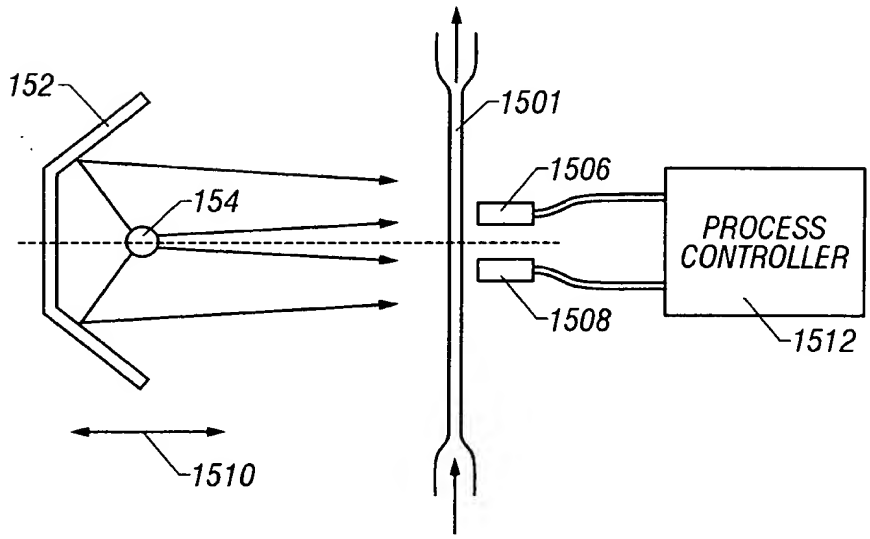


FIG. 15B

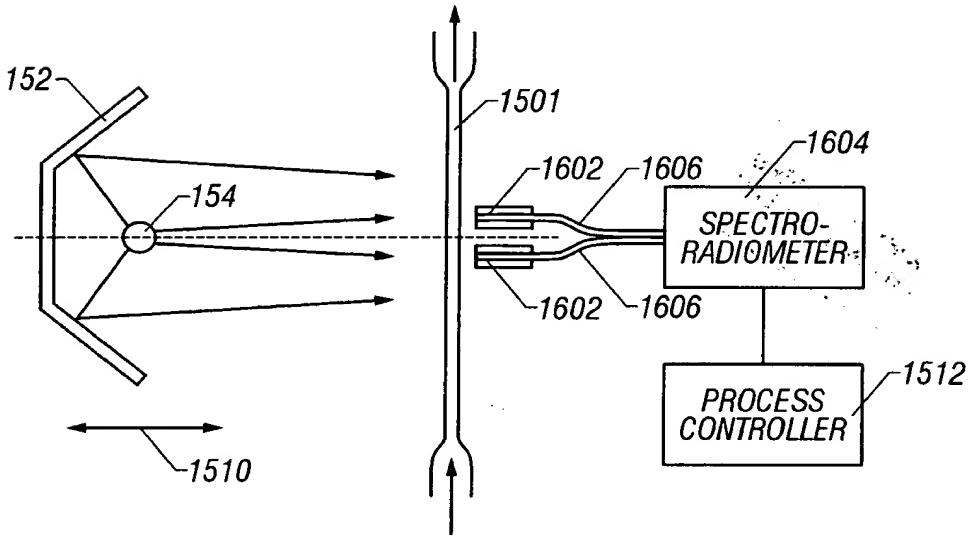


FIG. 16

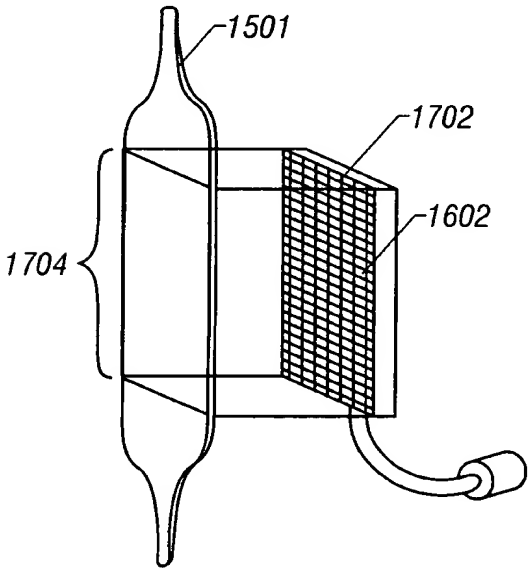


FIG. 17A

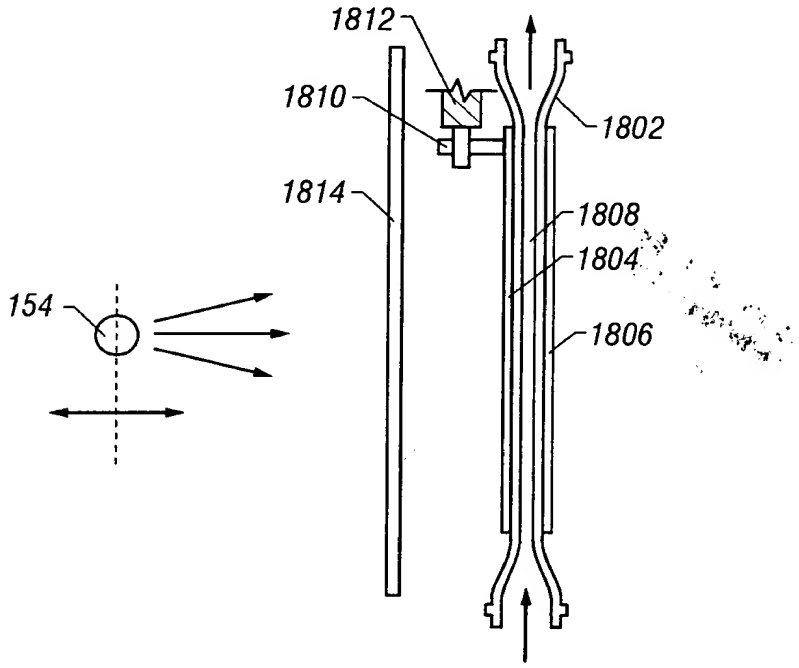
1812
1810
1814
1802
1808
1804
1806
154

FIG. 18

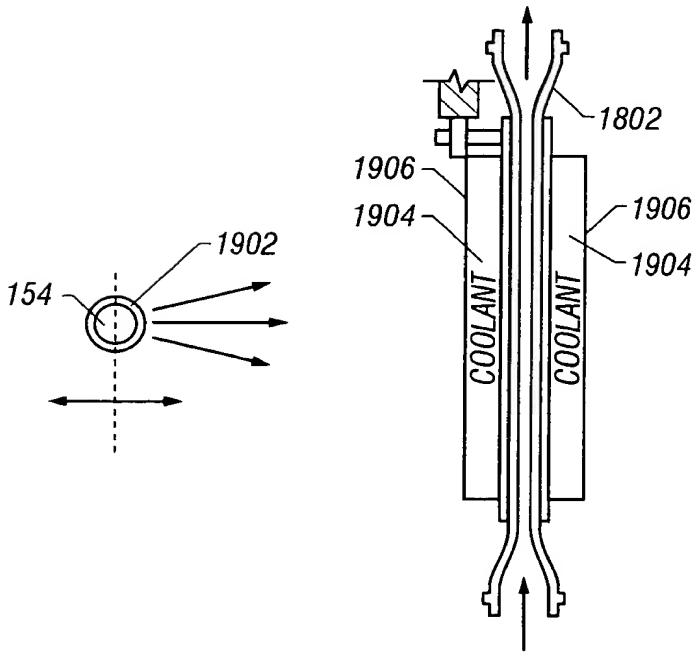
1802
1906
1904
1906
1904
1902
154
COOLANT
COOLANT

FIG. 19

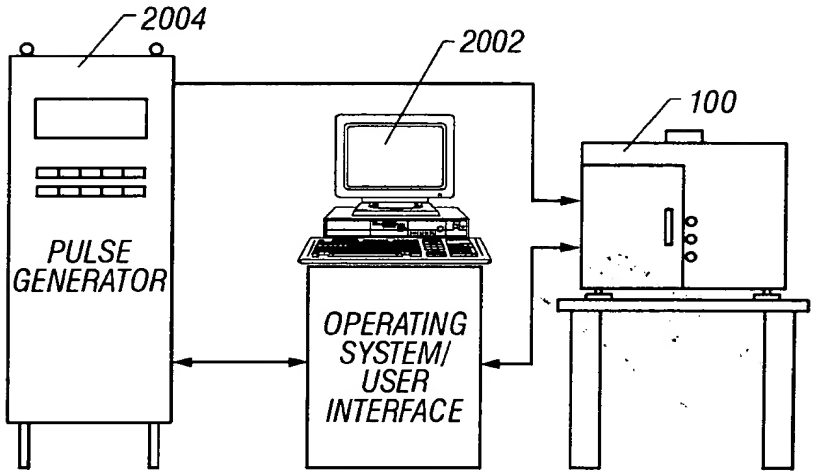


FIG. 20A

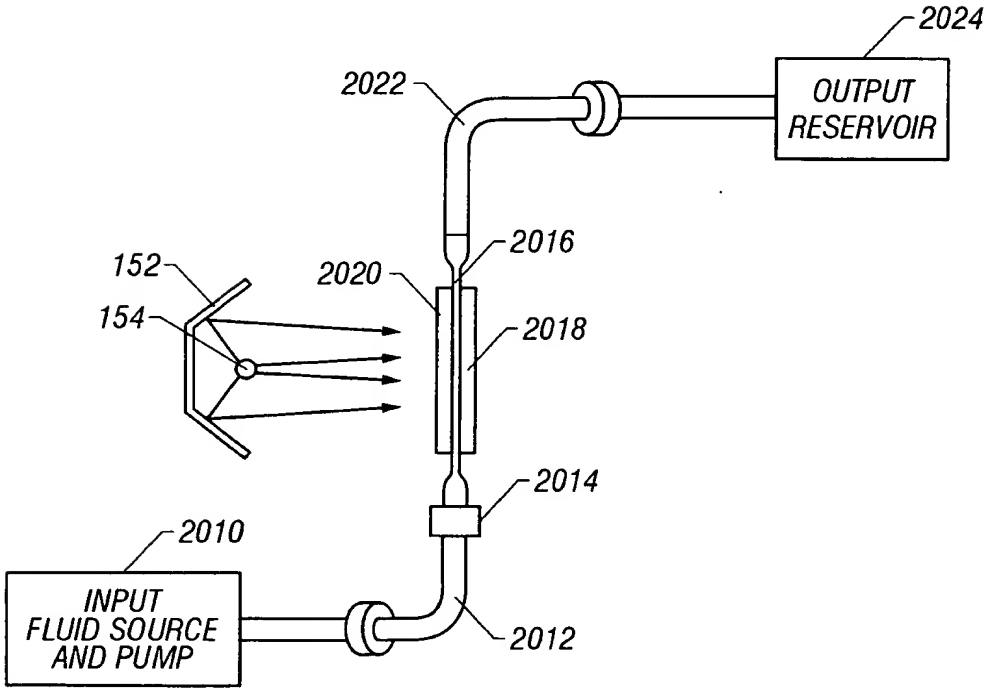


FIG. 20B

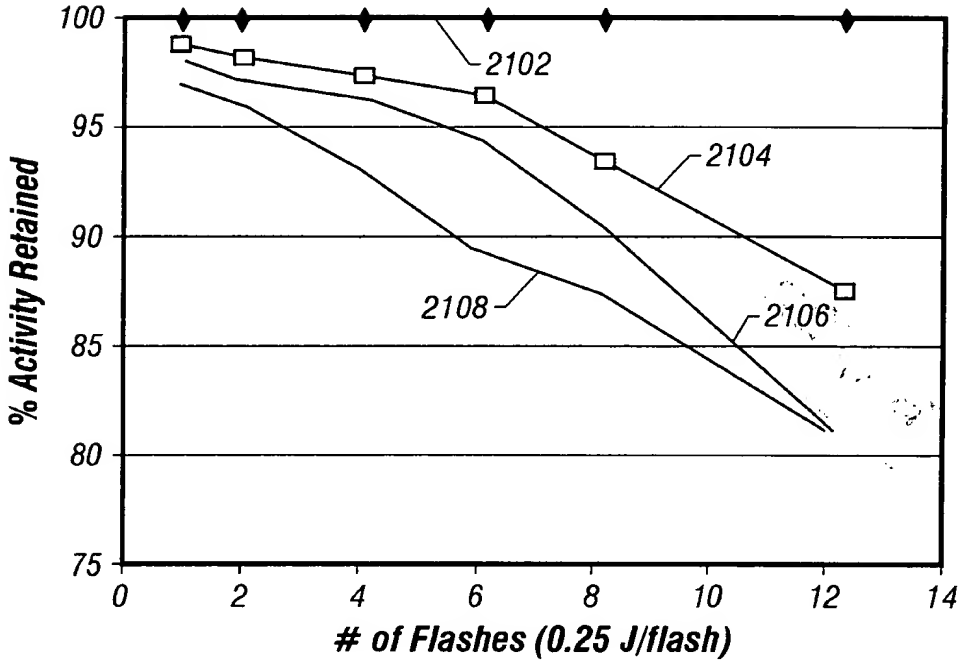
100
95
90
85
80
75
% Activity Retained
2102
2104
2106
2108
0
2
4
6
8
10
12
14
# of Flashes (0.25 J/flash)

FIG. 21

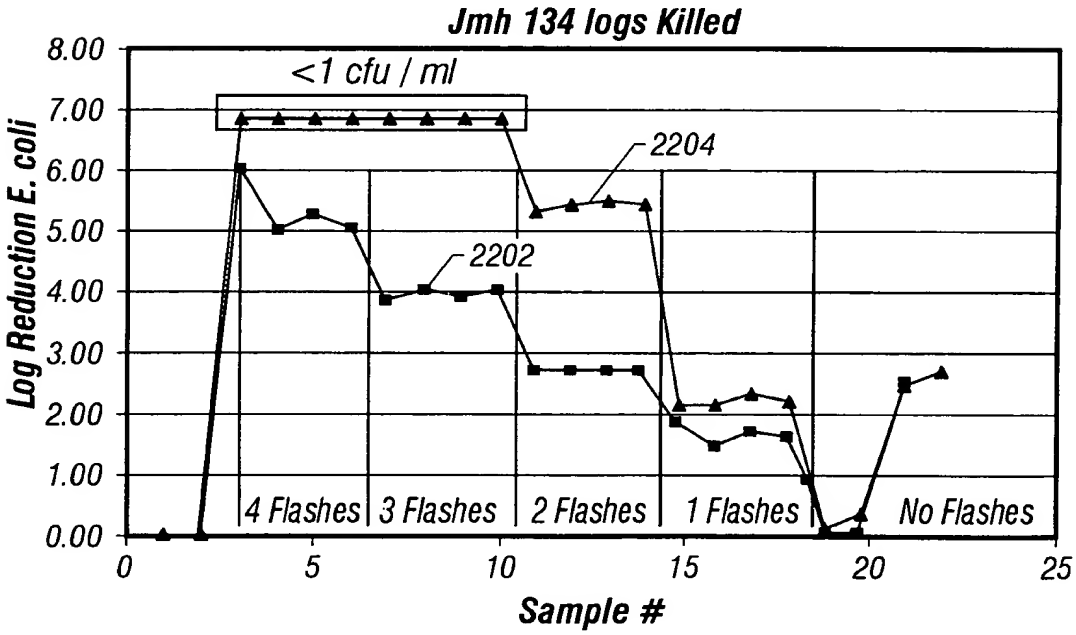
Jmh 134 logs Killed
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Log Reduction E. coli
<1 cfu / ml
2204
2202
4 Flashes
3 Flashes
2 Flashes
1 Flashes
No Flashes
0
5
10
15
20
25
Sample #

FIG. 22

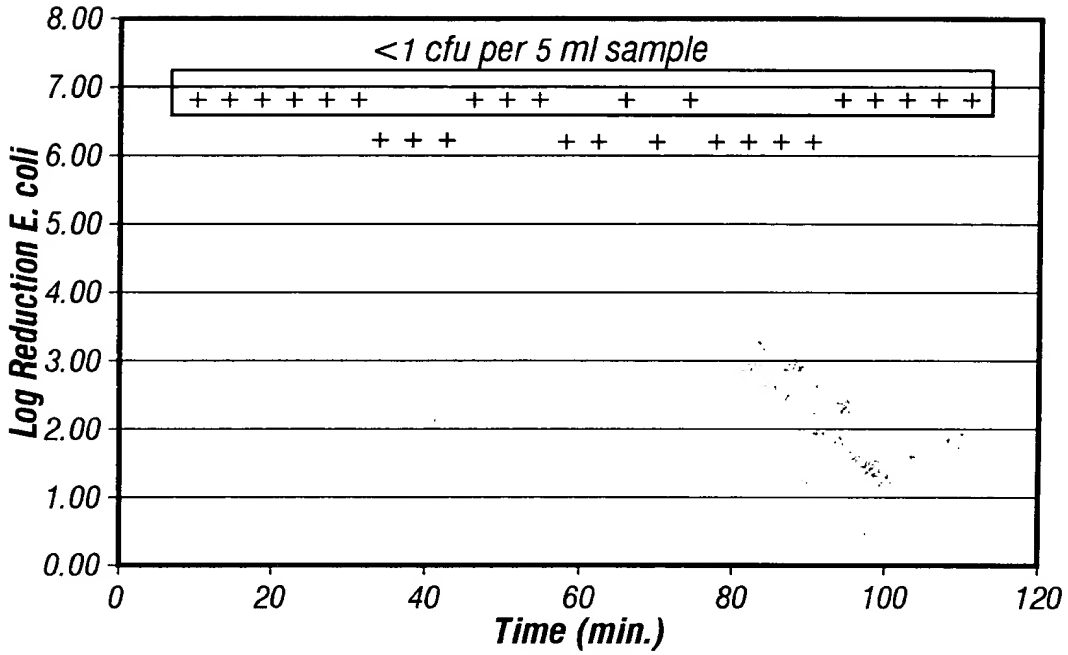
<1 cfu per 5 ml sample
Log Reduction E. coli
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0
20
40
60
80
100
120
Time (min.)

FIG. 23

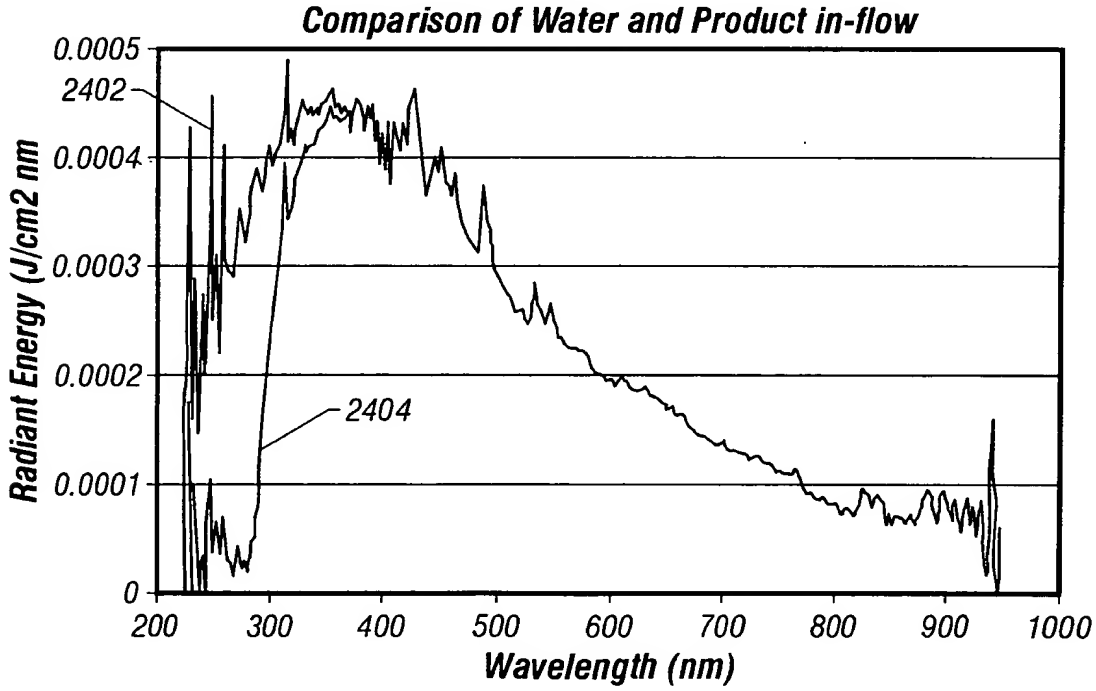
Comparison of Water and Product in-flow
Radiant Energy (J/cm2 nm
0.0005
0.0004
0.0003
0.0002
0.0001
0
2402
2404
200
300
400
500
600
700
800
900
1000
Wavelength (nm)

FIG. 24

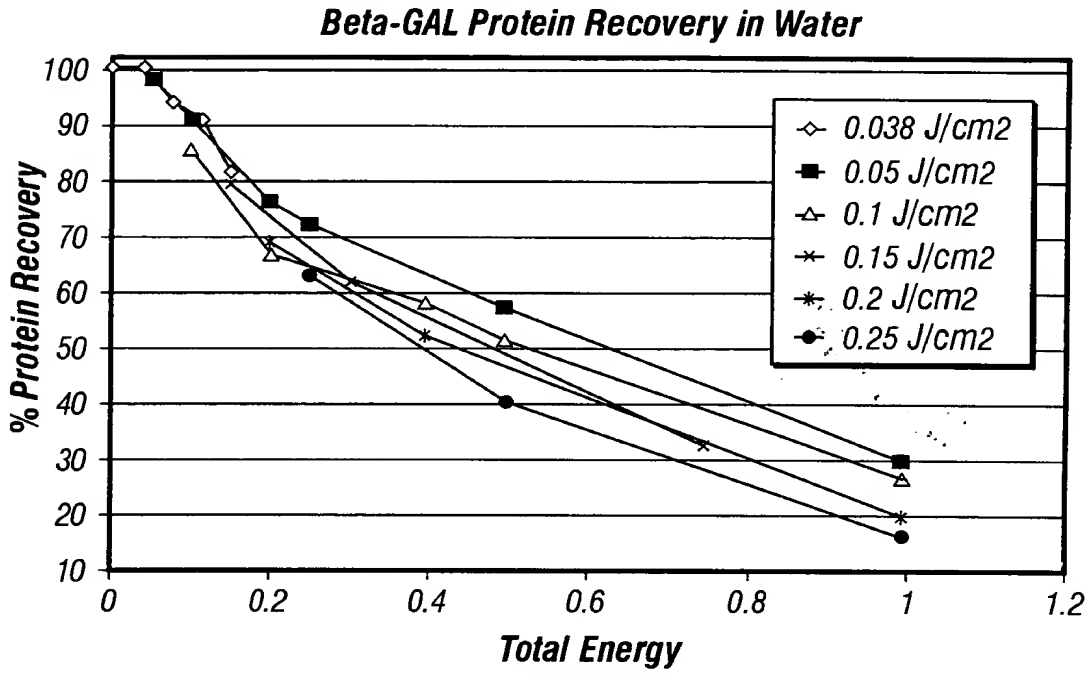
Beta-GAL Protein Recovery in Water
% Protein Recovery
100
90
80
70
60
50
40
30
20
10
0
0.2
0.4
0.6
0.8
1
1.2
Total Energy
0.038 J/cm2
0.05 J/cm2
0.1 J/cm2
0.15 J/cm2
0.2 J/cm2
0.25 J/cm2

FIG. 25

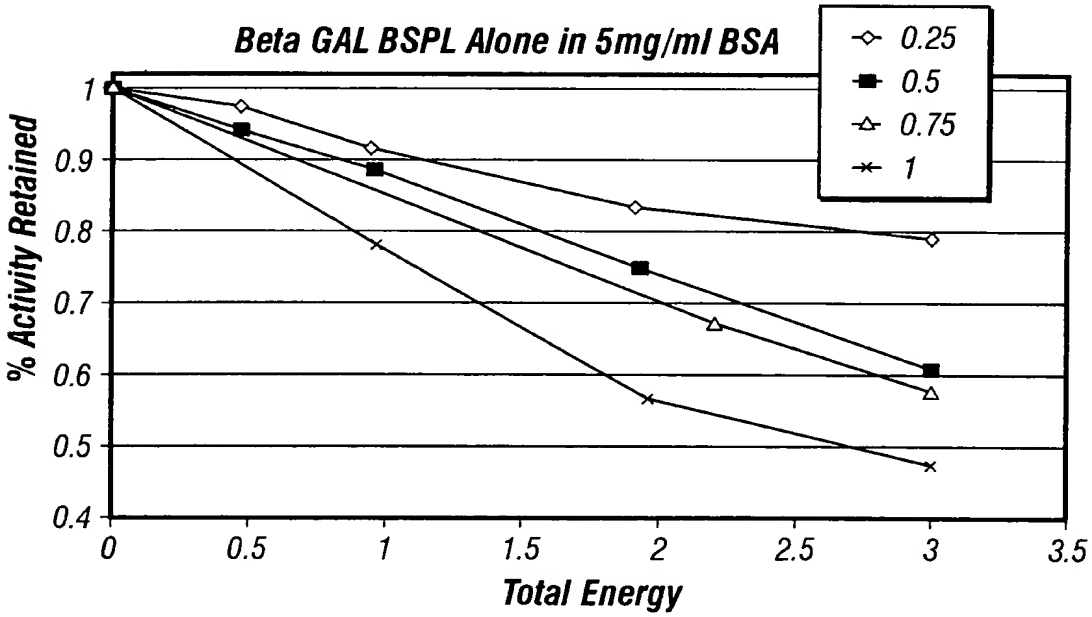
Beta GAL BSPL Alone in 5mg/ml BSA
% Activity Retained
1
0.9
0.8
0.7
0.6
0.5
0.4
0
0.5
1
1.5
2
2.5
3
3.5
Total Energy
0.25
0.5
0.75
1

FIG. 26